

REMARKS

Claim 1 has been amended to add the term "induction" as a modifier to the term "core", where appropriate. Claim 14 has been revised to avoid the lack of a proper antecedent basis for the term "polarity exchange". The form of the multiple dependent claims has been corrected by amendment. For these reason, it is requested that the objections to the claims be withdrawn.

Claims 1, 2, 5, 6, 10 and 12 were rejected under 35 U.S.C. §102(b) as anticipated by Esswein and claims 7, 11 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Esswein.

Reconsideration is requested.

The present invention is directed to an electric motor having a permanent magnetic rotor, a stator core of united poles in which the motor's direction is determined by external magnetic separation recesses on the poles of a single piece induction core.

Claim 1 has been amended to recite that there is a ring shaped air gap (8) between the rotor and the induction core as described in original claim 2. In addition, the central hole has been defined as being circular and the notches have been located on an outer surface of the induction core as noted in the specification at page 2, line 26 to page 3, line 1.

The Esswein patent is concerned with a electrically energized rotary actuator which includes an annular stator ring having a plurality of slot like magnetic flux obstructions spaced around the circumference. An associate rotor has two permanent magnets that are polarized along the rotor diameter to form a south pole at one point on the rotor periphery and a north pole on a diametrically opposed point on the rotor periphery. The claims of the present application are directed to an electric motor and not an actuator.

The present invention utilizes a unitary

induction core (single body in claim 1) while the Esswein patent utilizes what appears to be a two piece core (Fig. 2 has a ring 10 with separate rod ends 30). The magnetic separation notches recited in claim 1 are provide in the outer part of the induction core which allows for perfect symmetry and a circular central hole. The air gap (8) is ring shaped which improves the efficiency of the motor.

The Esswein patent has slots 22, 24 and 26 that extend into the ring along the circumference gaps thus forming an air gap which is irregular in shape and is not ring-shaped. In addition, Fig. 2 shows non-magnetic pin 44 which restricts the movement of the rotor (col. 4, lines 20-22. These differences point to the novelty and unobviousness of the claimed motor over the Esswein actuator. For these reason, it is requested that this ground of rejection be withdrawn.

Claims 3 and 4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Esswein in view of Horst.

Reconsideration is requested.

It is believes that the amendments to the claims that have been discussed *supra*, have distinguished the claimed invention from the cited prior art. The Esswein reference teachings have been rendered moot by the amendment that recites that there is a ring shaped air gap (8) between the rotor and the induction core and a circular central and notches that are located on an outer surface of the induction core. None of these features are taught or suggested by the cited references.

Claims 8 and 9 were rejected under 35 U.S.C. §103(a) as being unpatentable over Esswein in view of Mavidia et al. Claim 13 was rejected under 35 U.S.C. §103(a) as being unpatentable over Esswein in view of Mavidia et al. and Mayes.

Reconsideration is requested.

The Esswein patent has been distinguished from claimed invention and it is believed that the motor as

defined in claim 1 is not novel and unobvious over the Esswein reference. The secondary references teach the use of various sensors but do not teach the use of the disclosed sensors in an actuator of the type disclosed by Esswein. For these reasons, it is requested that this ground of rejection be withdrawn.

An early and favorable action is earnestly solicited.

Respectfully Submitted



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